



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/588,591

05/10/2007

Dirk Johan Somsen

207,752

8704

7590

08/17/2010

Jay S. Cinamon  
Abelman, Frayne and Schwab  
666 Third Avenue  
New York, NY 10017-5621

EXAMINER

MCCLAIN-COLEMAN, TYNESHA L.

ART UNIT

PAPER NUMBER

1784

MAIL DATE

DELIVERY MODE

08/17/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/588,591	<b>Applicant(s)</b> SOMSEN ET AL.	
	<b>Examiner</b> TYNESHA MCCLAIN-COLEMAN	<b>Art Unit</b> 1784	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 June 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,6,12,13,16,17,19-21 and 27-29 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,6,12,13,16,17,19-21 and 27-29 is/are rejected.
- 7) ☒ Claim(s) 1,13,16 and 29 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. The amendment filed June 1, 2010 is acknowledged. Claims 1-2, 6, 12-13, 16-17, 19-21, 27-28, and new claim 29 are pending in the application. Claims 3-5, 7-11, 14-15, 18, and 22-26 have been cancelled.

### ***Specification***

2. The abstract of the disclosure does not commence on a separate sheet in accordance with 37 CFR 1.52(b)(4). A new abstract of the disclosure is required and must be presented on a separate sheet, apart from any other text.

### ***Claim Objections***

3. Claims 1, 13, 16, and 29 are objected to because of the following informalities:

4. Claims 1 and 13 recite the word "fructose" (claim 1, line 8; and claim 13, line 8) in the amended claims dated 6/1/2010. However, this word should be underlined (added matter) as it does not appear in the previously submitted version of claims dated 8/4/2006. Also, claims 1 and 13 recite the phrase "*Bacillus*, ..., yeast genera *Saccharomyces* and *Candida*, and fungal *Aspergillus* and *Rhizopus*" (claim 1, lines 9-11; and claim 13, lines 10-11), which are strike-through in the amended claims dated 6/1/2010. However, this phrase should not be present or strike-through as it does not appear in the previously submitted version of the claims dated 8/4/2006. All claims being currently amended must be presented with markings to indicate the changes that

Art Unit: 1784

have been made relative to the immediate prior version. See MPEP 714. Appropriate correction is required.

5. Applicant is advised that should claim 16 be found allowable, claim 29 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

8. Claim 6 recites the limitation “the process according to claim 5.” However, claim 5 has been cancelled in the amended claims. For the purpose of the examination, claim 6 depends upon claim 1.

***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 1784

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 1, 6, 13, 16, 27, and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by *Buhler et al.* US 5192565 (hereinafter "*Buhler*") as evidenced by *Lindsay et al.* US 20050214411 (hereinafter "*Lindsay*"). *Lindsay* is merely used to show the acrylamide suppressing properties of microorganisms disclosed by *Buhler*.

11. With respect to claims 1, 6, 13, 16, 27, and 29, *Buhler* discloses blanching (heat treating) vegetables (Abstract) such as potato sticks (claims 16, 27, and 29) (column 2, line 31) in water (active blanching medium) (column 2, lines 40-41) for 1 to 15 minutes at 80°C to 95°C (blanching conditions) (column 2, lines 35-36), cooling, fermenting (withdrawing reducing sugars) the vegetables in water (spent blanching medium) (Abstract) with *Lactobacillus plantarum* (sugar and asparagine withdrawing means) (claim 6) or *Leuconostoc mesenteroides* (sugar and asparagine withdrawing means) (column 2, lines 61-64), pasteurizing (heat treating) the potato sticks with at least part of the water of the fermentation step (active blanching medium) for 2 to 30 minutes at a temperature of at 80°C to 110°C (column 3, lines 41-45; and column 4, lines 56-58) (reusing active blanching medium).

Art Unit: 1784

12. As evidenced by *Lindsay*, microorganisms, such as bacteria from the species of *Lactobacillus* and *Leuconostoc*, suppress the formation of acrylamide in various high temperature heated foods by two mechanisms. First, the microorganisms assimilate (metabolize) the free sugars (especially glucose, fructose, and sucrose) that react with asparagine to produce acrylamide under elevated temperature conditions. Secondly, microorganisms may also assimilate (metabolize) free asparagine, thus removing a key precursor in the formation of acrylamide. Additionally, microorganisms may possess the specific enzyme, asparaginase, which would simply de-amidate asparagine to yield aspartic acid and ammonia, again removing a key precursor for acrylamide formation (paragraphs [0015-0016]). Therefore, *Lactobacillus plantarum* and *Leuconostoc mesenteroides* disclosed by *Buhler* converts the glucose, fructose, and asparagine present in the blanched potato sticks.

13. *Buhler* is silent with respect to an explicit blanching section. However, the potato sticks disclosed by *Buhler* were blanched in a blanching section as the vegetables were heat treated by immersion in water (column 2, lines 39-41).

14. Claim 17 is rejected under 35 U.S.C. 102(e) as being anticipated by *Howie et al.* US 20040265432 (hereinafter "*Howie*").

15. Regarding claim 17, *Howie* discloses potato chips, which were made from fried potato slices, with less than about 150 ppb acrylamide present which is equal to 150 µg per kg of product and falls within the applicant's claimed range (paragraphs [0102] and [0105]).

16. Claim 17 is rejected under 35 U.S.C. 102(e) as being anticipated by *Zyzak et al.* US 20040058046 (hereinafter "*Zyzak*").

17. With respect to claim 17, *Zyzak* discloses potato chips, which were made from fried potato slices, with less than about 150 ppb acrylamide which is equal to 150 µg per kg of product and falls within the applicant's claimed range (paragraphs [0103] and [0106]).

### ***Claim Rejections - 35 USC § 103***

18. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

19. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

20. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

Art Unit: 1784

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

21. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Buhler et al.* US 5192565 (hereinafter "*Buhler*") as applied to claim 1 above.

22. Regarding claim 12, *Buhler* does not disclose the reducing sugar content of the potato sticks after blanching is less than 0.25 wt. %.

23. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to optimize the blanched potato sticks disclosed by *Buhler* have a reducing sugar content of less than 0.25 wt. %.

24. One having ordinary skill in the art would have been motivated to do this because it is well known in the art that the fermentation step disclosed by *Buhler* metabolizes glucose and fructose and thus reduces the sugar content present in the potato sticks. Also, the amount of reducing sugar present in the blanched potato sticks is contingent upon the amount of microorganism (*Lactobacillus plantarum* or *Leuconostoc mesenteroides*) used, the amount of glucose, fructose, and sucrose present prior to fermentation, and the length of time the fermentation step is carried out.

25. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Buhler et al.* US 5192565 (hereinafter "*Buhler*") as applied to claim 1 above, in view of *Montgomery*, "Water Recycling in the Fruit and Vegetable Processing Industry," January



Art Unit: 1784

1981, Office of Water Recycling State Water Resources Control Board, pages 3-1 to 4-22 (hereinafter "*Montgomery*").

26. With respect to claim 2, *Buhler* does not disclose streaming spent blanching medium to a desugaring section, withdrawing the reducing sugars from the water after blanching (spent blanching medium) in a desugaring section which is separated from the blanching section, and streaming active blanching medium obtained from the desugaring section back into the blanching section.

27. *Montgomery* discloses obtaining blanched water (spent blanching medium), treating the used water (desugaring), and recycling the treated water (active blanching medium) back through the process, including the blanching step (blanching section) (Figures 3-2 and 3-3; and page 4-20). The blanched water is treated in a separate section (desugaring section) (Figures 3-2 and 33). The water used during processing may contact the product before, during, and after processing and may be incorporated into the finished product package (page 4-20).

28. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the recycling mechanism disclosed by *Montgomery* into the method of preserving vegetables as disclosed by *Buhler*.

29. One having ordinary skill in the art would have been motivated to do this because *Buhler* teaches treating vegetables in water with *Lactobacillus plantarum* or *Leuconostoc mesenteroides* in order to metabolize the fructose and glucose present, which is similar to the treatment step disclosed by *Montgomery*. Also, reusing the blanching medium ensures the retention of some of the nutrients lost during blanching.

Art Unit: 1784

Based upon the fact that *Buhler* and *Montgomery* similarly teach blanching vegetables with water, and the water comes in contact with the food during processing and packaging, it would be obvious, given the teachings of *Montgomery*, to incorporate the recycling mechanism into the method of preserving vegetables disclosed by *Buhler* with the expectation of successfully processing vegetables with recycled water.

30. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Buhler et al.* US 5192565 (hereinafter "*Buhler*") as applied to claim 1 above, in view of *Zyzak* US 20040058046 (hereinafter "*Zyzak*").

31. Regarding claim 12, *Buhler* does not disclose the content of reducing sugars after blanching is less than 0.25 wt. %.

32. *Zyzak* discloses preparing potatoes with low levels of reducing sugars (i.e. <1.5%) (paragraph [0061]).

33. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to prepare the potato sticks disclosed by *Buhler* with a reducing sugar content of the potatoes disclosed by *Zyzak*.

34. One having ordinary skill in the art would have been motivated to do this because it is well known in the art that the fermentation step disclosed by *Buhler* metabolizes glucose and fructose and thus reduces the sugar content present in the potato sticks. Based upon the fact that *Buhler* and *Zyzak* teach a reduction of acrylamide in the food product by treating the blanched product with a composition which reduces asparagine in the food product (*Zyzak*, paragraphs [0017], [0032], and [0033]), it would have been

Art Unit: 1784

obvious, given the teachings of *Zyzak*, to prepare the potato sticks disclosed by *Buhler* with a reducing sugars content of  $< 1.5\%$ , including less than  $0.25\%$  as claimed by the applicant, with the expectation of successfully preserving the vegetables.

35. Claims 13, 16-17, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Zyzak* US 20040058046 (hereinafter "*Zyzak*") in view of *Buhler et al.* US 5192565 (hereinafter "*Buhler*").

36. With respect to claims 13, 16, and 29, *Zyzak* discloses potato slices (claims 16 and 29) may be blanched in water (blanching medium) at  $165^{\circ}\text{F}$  for fifteen seconds (blanching conditions) (paragraph [0350]). The potato slice blanching solutions (spent blanching medium) containing asparagine are pumped through a column comprising immobilized asparagine-reducing enzyme (paragraph [0105]). The enzyme (asparagine-withdrawing means) is capable of reducing the level of asparagine in food (paragraph [0021]). The effluent (active blanching medium) from the column is returned to the potato slices (paragraph [0105]).

37. *Zyzak* is silent with respect to explicitly blanching the potatoes in a blanching section. Since *Zyzak* discloses the potato slices were blanched in hot water (paragraph [0350]), it is expected that the potato slices disclosed by *Zyzak* were blanched in a blanching section.

38. However, *Zyzak* does not disclose treating the potato slice blanching solutions with a microorganism.

Art Unit: 1784

39. *Buhler* discloses blanching (heat treating) vegetables (Abstract) such as potato sticks (column 2, line 31) in water (column 2, lines 40-41) (column 2, lines 35-36), cooling, fermenting the vegetables in water (Abstract) with *Lactobacillus plantarum* or *Leuconostoc mesenteroides* (column 2, lines 61-64).

40. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to treat the potato slice blanching solutions disclosed by *Zyzak* with the *Lactobacillus plantarum* or *Leuconostoc mesenteroides* as disclosed by *Buhler*.

41. One having ordinary skill in the art would have been motivated to do this because it is well known in the art that the *Lactobacillus plantarum* or *Leuconostoc mesenteroides* disclosed by *Buhler* may be used to reduce the acrylamide content of the heated food product. Based upon the fact that both *Zyzak* and *Buhler* similarly teach the a method of reducing the acrylamide content in food (*Zyzak*, paragraph [0006]), it would have been obvious, given the teachings of *Buhler*, to treat the potato slice blanching solutions disclosed by *Zyzak* with the *Lactobacillus plantarum* or *Leuconostoc mesenteroides* with the expectation of successfully reducing the acrylamide present in foods.

42. Regarding claim 17, *Zyzak* discloses potato chips, which were made from fried potato slices, with less than about 150 ppb acrylamide which is equal to 150 µg per kg of product and falls within the applicant's claimed range (paragraphs [0103] and [0106]).

Art Unit: 1784

43. Claims 19-21 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Tricoit et al.* US 20040115321 (hereinafter "*Tricoit*") in view of *Zyzak et al.* US 20040058046 (hereinafter "*Zyzak*").

44. With respect to claims 19 -21 and 28, *Tricoit* discloses blanched potatoes are chilled by soaking in a cold solution containing from 0.1 up to 1% salt (NaOH), salts ( $K_2HPO_4$ ,  $KH_2PO_4$ , sodium acid pyrophosphate (SAPP), or the like) and/or an antioxidant, for instance an antioxidant selected from the group consisting of citric acid, ascorbic acid, caffeic acid, chlorogenic acid (paragraph [0062]).

45. However, *Tricoit* does not disclose a blanched potato product with a reducing sugar content less than 0.25 wt %.

46. *Zyzak* discloses preparing potatoes with low levels of reducing sugars (i.e. <1.5%) (paragraph [0061]).

47. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to prepare the potatoes disclosed by *Tricoit* with a reducing sugar content of the potatoes disclosed by *Zyzak*.

48. One having ordinary skill in the art would have been motivated to do this because *Tricoit* teaches acrylamide formation relies on the condensation of a free amino group (free amino acid or protein) with a reducing sugar (paragraph [0004]). Based upon the fact that *Tricoit* and *Zyzak* similarly teach the reduction of acrylamide in a blanched food product (*Tricoit*, Abstract and paragraphs [0022] and [0038]; and *Zyzak*, paragraphs [0017], [0032], and [0033]), it would have been obvious, given the teachings of *Zyzak*, to prepare the potato product disclosed by *Tricoit* with a reducing sugars content of <

Art Unit: 1784

1.5%, including less than 0.25% (claim 19) and less than 0.1% (claim 20) as claimed by the applicant, with the expectation of successfully preventing acrylamide formation during heat treatment of food.

49. *Tricoit* also does not disclose a potato product having at least 3g potassium (claim 19), at least 3.5g citric acid (claim 19), and at least 100mg of an acid pyrophosphate (claims 21 and 28) per kg of product.

50. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to optimize the potato product disclosed by *Tricoit* to include at least 3g potassium (claim 19), at least 3.5g citric acid (claim 19), and at least 100mg of an acid pyrophosphate (claims 21 and 28) per kg of product.

51. One having ordinary skill in the art would have been motivated to do this because the amounts disclosed by the applicant of potassium, citric acid, and acid pyrophosphate per kilogram of product is equivalent to .30g, .35g, and .01g, respectively, per 100g of product. The total amount of these items present is about .66g per 100g of product. *Tricoit* teaches the total of these items present is from 0.01% to 1%, or 0.01g to 1g, respectively, per 100g of product (paragraph [0062]), which encompasses the total amount of citric acid, potassium, and pyrophosphate claimed by the applicant. Therefore, it would have been obvious to a person of ordinary skill in the art to optimize using at least 3g of potassium, at least 3.5g citric acid, and at least 100mg of acid pyrophosphate per kg product as claimed by the applicant, with the expectation of successfully preventing acrylamide formation during heat treatment of food.

***Response to Arguments***

52. Applicant's arguments filed June 1, 2010 have been fully considered.

53. Due to the amendments made to claims 1, 6, 12, and 20, all claim objections and 35 U.S.C. 112 rejections have been withdrawn (see page 5). However, the 35 U.S.C. 112 rejection above of claim 6 is necessitated by the cancellation of claim 5 in the amended claims dated 6/1/2010.

54. Due to the amendment of independent claims 1 and 13, which include micro-organisms as the sugar-withdrawing means, the rejection of claims 1, 13, 16, and 26 over *Howie* (see page 6), claims 13 and 16 over *Zyzak* (see page 6), and claim 12 over *Howie* in view of *Zyzak* (see page 8) have been withdrawn. However, upon further search of prior art, a new ground(s) of rejection is made over *Buhler et al.* US 5192565 (hereinafter "*Buhler*"). As disclosed above, *Buhler* discloses a method of preserving fruits and vegetables that is identical to the process of producing a food product by heat-treating a food material containing reducing sugars as claimed by the applicant. Also, *Zyzak* in view of *Buhler* discloses a method for reducing acrylamide in foods which is similar to the process claimed by the applicant.

55. Due to the cancellation of claims 3-5, 7-11, 14-15, 18, and 22-26, the rejection of claims 3, 7-10, 14-15, 24, and 26 over *Howie* (see pages 6-7), claim 14 over *Zyzak* (see page 6), claims 4 and 23 over *Howie* in view of *Mitz* (see page 8), claim 5 over *Howie* in view of *Xu* (see page 8), claim 11 over *Howie* in view of *Schoenrock* (see page 8), claim

Art Unit: 1784

18 over *Howie* in view of *Tricoit* (see pages 9-10), and claims 22 and 25 over *Howie* in view of *Arroqui* (see page 7) are moot.

56. Applicant's arguments with respect to the rejection of claims 19 and 21 over *Tricoit* have been considered, but they are not persuasive (see pages 7 and 10).

57. Applicant argues *Tricoit* does not teach any steps being taken to prevent other valuable components from leading out into the water during the blanching and chilling steps. However, this feature is not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims (see MPEP 2145).

58. Applicant also argues there is no teaching or suggestion provided in *Tricoit* which would direct one of ordinary skill in the art of the benefit to be realized from a blanched potato product having a reducing sugar content of less than 0.25 wt. percent. However, as disclosed above, *Zyzak* is relied upon for the teachings of a potato product with a reducing sugar content of less than 0.25 wt. %. Since *Tricoit* teaches acrylamide formation relies on the condensation of a free amino group (free amino acid or protein) with a reducing sugar (paragraph [0004]), and *Tricoit* and *Zyzak* similarly teach the reduction of acrylamide in a blanched food product (*Tricoit*, Abstract and paragraphs [0022] and [0038]; and *Zyzak*, paragraphs [0017], [0032], and [0033]), it would have been obvious, given the teachings of *Zyzak*, to prepare the potato product disclosed by *Tricoit* with a reducing sugars content of < 1.5%, including less than 0.25% (claim 19) and less than 0.1% (claim 20) as claimed by the applicant, with the expectation of successfully preventing acrylamide formation during heat treatment of food.



Art Unit: 1784

59. Due to the amendment to claim 1, which includes micro-organisms as the sugar-withdrawing means, the rejection of claim 2 over *Howie* in view of *Arroqui* has been withdrawn (see page 7). However, upon further search of prior art, a new ground(s) of rejection of claim 2 is made over *Buhler et al.* US 5192565 (hereinafter "*Buhler*") in view of *Montgomery*, "Water Recycling in the Fruit and Vegetable Processing Industry," January 1981, Office of Water Recycling State Water Resources Control Board, pages 3-1 to 4-22 (hereinafter "*Montgomery*"). As disclosed above, *Buhler* in view of *Montgomery* discloses a method of preserving fruits and vegetables that is identical to the process of producing a food product by heat-treating a food material containing reducing sugars as claimed by the applicant

60. Applicant's arguments with respect to the rejection of claim 6 over *Howie* in view of *Xu* are persuasive (see page 8), and the rejection of claim 6 has been withdrawn. However, upon further search of prior art, a new ground(s) of rejection is made over *Buhler et al.* US 5192565 (hereinafter "*Buhler*"). As disclosed above, *Buhler* discloses a method of preserving fruits and vegetables that is identical to the process of producing a food product by heat-treating a food material containing reducing sugars as claimed by the applicant.

61. Applicant's arguments with respect to the rejection of claim 17 over *Howie* and claim 17 over *Zyzak*, have been considered, but they are not persuasive (see pages 9-10).

62. Applicant argues independent claim 17 has been amended. However, independent claim 17 has not been amended in the claims submitted 6/1/2010.

Art Unit: 1784

63. Applicant also argues claim 17 is directed to potato products that have been subjected to a blanching step using the recycling process of the present invention, and no action is taken in the references during blanching in order to prevent valuable potato ingredients such as sucrose, citric acid, and potassium from leaching out during blanching. However, the features are not recited in the rejected claim. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims (see MPEP 2145).

64. Since independent claim 17 has not been amended, the rejection of claim 17 over *Howie* and claim 17 over *Zyzak* have been maintained. As disclosed above, both *Howie* and *Zyzak* teach fried potato slices with an acrylamide content lower than 150 µg per kg of product.

65. Applicant's arguments with respect to the rejection of claims 20 and 28 over *Tricoit* in view of *Zyzak* have been considered, but they are not persuasive (see page 10).

66. Applicant argues *Zyzak* does not teach the withdrawal of fructose. However, this feature is not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims (see MPEP 2145). *Zyzak* is relied upon for the teachings of a potato product with a reducing sugar content of less than 0.25 wt. %. Since *Tricoit* teaches acrylamide formation relies on the condensation of a free amino group (free amino acid or protein) with a reducing sugar (paragraph [0004]), and *Tricoit* and *Zyzak* similarly teach the reduction of acrylamide in a blanched food product (*Tricoit*, Abstract and paragraphs [0022] and

Art Unit: 1784

[0038]; and *Zyzak*, paragraphs [0017], [0032], and [0033]), it would have been obvious, given the teachings of *Zyzak*, to prepare the potato product disclosed by *Tricoit* with a reducing sugars content of < 1.5%, including less than 0.25% (claim 19) and less than 0.1% (claim 20) as claimed by the applicant, with the expectation of successfully preventing acrylamide formation during heat treatment of food.

### ***Conclusion***

67. Any inquiry concerning this communication or earlier communications from the examiner should be directed to TYNESHA MCCLAIN-COLEMAN whose telephone number is (571)270-1153. The examiner can normally be reached on Monday - Thursday 7:30AM - 5:00PM Eastern Time.

68. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on (571)272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

69. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

Application/Control Number: 10/588,591

Page 19

Art Unit: 1784

USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/TYNESHA L MCCLAIN-COLEMAN/  
Examiner, Art Unit 1784

/Jennifer C. McNeil/  
Supervisory Patent Examiner, Art Unit 1784